

April 2, 2010

Project 10627.003.0

Ms. Carmen D. Santos  
Manager  
RCRA Corrective Action Office, Waste Management Division  
U.S. EPA Region 9  
Mail Code WST-4  
75 Hawthorne Street  
San Francisco, CA 94105

**Re: Polychlorinated Biphenyls Notification Plan  
Risk-Based Application Amendment 2  
Proposed Concrete and Soil Sampling Plan for Coplanar Polychlorinated Biphenyls  
Former Pechiney Cast Plate Facility  
3200 Fruitland Avenue, Vernon, California**

Dear Ms. Santos:

AMEC Geomatrix, Inc. (AMEC), has developed an approach for sampling concrete floor slabs and soil for the presence of dioxin-like polychlorinated biphenyl (PCB) congeners (also known as coplanar PCBs) at the Pechiney Cast Plate, Inc. facility (facility or site) located at 3200 Fruitland Avenue in Vernon, California (Figure 1). This sampling approach was developed to address the U.S. EPA's concern that these coplanar PCBs may be present based on the age of the facility and the historical manufacturing operations. For the most part, the primary mixture of PCBs detected in soil and concrete at the site has been Aroclor-1248, and to a lesser extent, Aroclor-1254 and Aroclor-1260.

The proposed sampling will target concrete and soil where total PCBs (the sum of Aroclor mixtures) were detected at concentrations below 5.3 milligrams per kilogram (mg/kg), which is the proposed risk-based remediation goal protective of potential future exposures to PCBs in shallow soils. Additional samples also will be collected from selected locations where total PCBs were detected at concentrations above 50 mg/kg.

Each proposed sample location will target concrete or soil where only one Aroclor mixture was previously detected. Samples will be analyzed for Aroclor mixtures using EPA Method 8082 and individual PCB congeners using EPA Method 1668A. Concentrations of dioxin toxic equivalence (TEQ) will be estimated for samples with detected concentrations of dioxin-like PCB congeners to evaluate the potential human health impacts of these congeners. As needed, statistical correlations may be developed between dioxin TEQ and individual Aroclor mixture concentrations (e.g., if the human health impact of dioxin TEQ concentrations appears to be more significant than the impact of Aroclor mixture concentrations). Such correlations would be used to 1) estimate dioxin TEQ concentrations associated with previous sampling results, 2) support (or refine) the site-specific PCB remediation goals, and 3) support remediation confirmation sampling.

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### **Proposed Concrete Sample Locations**

The proposed concrete sample locations are listed below and shown on Figure 2 (attached).

- Former sample location DC-22: Aroclor-1260 was detected in concrete at a concentration of 0.47 mg/kg;
- Former sample location DC-23: Aroclor-1260 was detected in concrete at a concentration of 0.84 mg/kg;
- Former sample location DC-52: Aroclor-1248 was detected in concrete at a concentration of 1.6 mg/kg;
- Former sample location DC-154: Aroclor-1248 was detected in concrete at a concentration of 3.7 mg/kg;
- Former sample location DC-168: Aroclor-1248 was detected in concrete at a concentration of 150 mg/kg;
- Former sample location C-12: Aroclor-1254 was detected in concrete at a concentration of 1.8 mg/kg;
- Former sample location C-14: Aroclor-1260 was detected in concrete at a concentration of 2.0 mg/kg; and
- Former sample location B-1: Aroclor-1248 was detected in concrete at a concentration of 0.24 mg/kg.

In addition, one sample location was selected to target concrete where Aroclor mixtures have not been detected. An additional concrete sample will be collected near former sample location DC-25. PCBs were not previously detected in concrete (concentration is less than 0.29 mg/kg) at this location.

### **Proposed Soil Sample Locations**

Soil sampling will focus on soils in the upper 15 feet, where potential direct contact exposures may occur; soil containing PCBs at depths greater than 15 feet are proposed to be left in place (no exposure pathway or risk to groundwater). Soil samples are proposed for collection from

12 locations summarized in the following text and shown on Figures 3a and 3b (attached). The sample locations are based on the PCB concentrations in soils shown on Figures 5a and 5b of

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the PCB Plan,<sup>1</sup> and the proposed remediation areas delineated on Figure 9 of the referenced Plan.

- Former boring HW-S: Aroclor-1248 remains in soil at a concentration of 6.9 mg/kg at 3 feet below ground surface (bgs). At this location, one soil sample will be collected at approximately 3 feet bgs.
- Former boring SWO-6-2: Aroclor-1254 remains in soil at a concentration of 0.15 mg/kg at 5 feet bgs. At this location, one soil sample will be collected at approximately 5 feet bgs.
- Former boring H4-F: Aroclor-1248 remains in soil at a concentration of 3.2 mg/kg at 5 feet bgs. At this location, one soil sample will be collected at approximately 5 feet bgs.
- Former boring B-2F: Aroclor-1260 remains in soil at a concentration of 1.2 mg/kg at 1 foot bgs. At this location, one soil sample will be collected at approximately 1 foot bgs.
- Former boring IWDP-W (Gray): Aroclor-1254 remains in soil at a concentration of 4.0 mg/kg (original sample depth collected along the sidewall is unknown). At this location, two soil samples will be collected at approximately 5 and 10 feet bgs.
- Former boring SWO7-M: Aroclor-1248 remains in soil at a concentration of 4.5 mg/kg at 6 feet bgs. At this location, one soil sample will be collected at approximately 6 feet bgs.
- Former boring SWO7-N: Aroclor-1248 remains in soil at a concentration of 3.4 mg/kg at 6 feet bgs. At this location, one soil sample will be collected at approximately 6 feet bgs.
- Former boring #155: Aroclor-1260 remains in soil at a concentration of 2.1 mg/kg at 2 feet bgs (Figure 3a). At this location, one soil sample will be collected at approximately 2 feet bgs.
- Former boring #41: Aroclor-1248 remains in soil at a concentration of 2.0 mg/kg at 2.6 feet bgs. At this location, one soil sample will be collected at approximately 2.6 feet bgs.

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<sup>1</sup> Polychlorinated Biphenyls Notification Plan, 2009, Former Pechiney Cast Plate, Inc. Facility, Vernon, California, prepared by AMEC Geomatrix, Inc., July 10.



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- Location between former borings #40 and #95: Aroclor-1248 was previously detected at the concentrations listed below. Two soil samples will be collected at a location between former borings #40 and #95, at approximately 5 and 10 feet bgs.
  - Boring #40: At depths at or above 15 feet, PCBs (Aroclor-1248) remain in soil at concentrations of 440J ("J"; estimated concentration) and 5.7J mg/kg at 8.5 and 11.5 feet bgs, respectively. At 21.5 feet bgs, PCBs (Aroclor-1248) remain in soil at a concentration of 2,000J mg/kg.
  - Boring #95: At depths at or above 15 feet, PCBs (Aroclor-1248) remain in soil at a concentration of 77 mg/kg at 10.5 feet bgs. At 20.5 feet bgs, PCBs (Aroclor-1248) remain in soil at a concentration of 2,000 mg/kg.

### **Sampling Procedures**

Concert cores measuring 1.5 inches in diameter and 3 inches in length (in accordance with 40 CFR Part 761; Subpart O; Section 761.286) will be collected at the proposed concrete sample locations using concrete coring equipment utilized by our subcontractor, Rice General Concrete Cutting Services of Long Beach, California. The concrete cores will be placed individually in resealable plastic bags and stored in an ice-chilled cooler. The core samples will be sent to the analytical laboratory, American Analytics of Chatsworth, California (American Analytics), to be crushed prior to analysis.

Soil samples will be collected by hand sampling methods or using direct-push drilling methods. Interphase Environmental, Inc. of Los Angeles, California, will perform the drilling. During hand sampling or drilling, an AMEC field geologist will describe soil encountered using the visual-manual procedures described in ASTM D2488, which uses the Unified Soil Classification System for guidance. Upon collection, the soil samples will be placed individually in re-sealable plastic bags, and stored in an ice-chilled cooler. The soil samples will be transported to American Analytics for laboratory testing.

Sample documentation, handling and transport will be conducted in accordance with the site-specific Quality Assurance Project Plan.<sup>2</sup>

### **Laboratory Analyses**

The reporting limits for all Aroclors listed under EPA Method 8082 will be 200 micrograms per kilogram ( $\mu\text{g/kg}$ ), or 0.2 mg/kg. Average detection limits (DLs) provided by American Analytics for dioxin-like PCB congeners for EPA Test Method 1666A are listed in the table below.

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<sup>2</sup> Geomatrix Consultants, Inc., 2007, Quality Assurance Project Plan, Former Pechiney Cast Plate, Inc. Facility, Vernon, California, July 20.



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Congener	PCB #	Soil/Concrete Average DL (ng/Kg, ppt)
3,3',4,4'-Tetrachlorobiphenyl	77	0.60
3,4,4',5-Tetrachlorobiphenyl	81	0.70
2,3,3',4,4'-Pentachlorobiphenyl	105	0.64
2,3,4,4',5-Pentachlorobiphenyl	114	0.68
2,3',4,4',5-Pentachlorobiphenyl	118	0.55
2',3,4,4',5-Pentachlorobiphenyl	123	0.63
3,3',4,4',5-Pentachlorobiphenyl	126	0.74
2,3,3',4,4',5-Hexachlorobiphenyl	156	0.62
2,3,3',4,4',5'-Hexachlorobiphenyl	157	0.62
2,3',4,4',5,5'-Hexachlorobiphenyl	167	0.42
3,3',4,4',5,5'-Hexachlorobiphenyl	169	0.48
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	0.46

**Notes:** The DLs listed are estimated. ng/kg = nanograms per kilogram. ppt = parts per trillion.

### **Decontamination of Concrete Coring and Subsurface Sampling and Drilling Equipment**

Concrete coring equipment will be decontaminated prior to use and between sampling locations using a 3-stage wash/rinse. Downhole drilling and sampling equipment will be decontaminated in a mobile decontamination trailer with a high pressure steam cleaner prior to use and between sampling locations. Hexane will be used as a final rinse for the concrete coring and downhole sampling equipment.

### **Waste Containment and Disposal**

Decontamination wastewater and soil generated during concrete coring and drilling and sampling (investigation derived waste) will be containerized in Department of Transportation-approved 55-gallon drums and properly profiled, manifested, and disposed off-site at a licensed disposal facility.

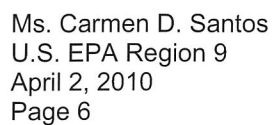
Sincerely yours,  
AMEC Geomatrix, Inc.



Linda Conlan, PG #6943  
Senior Geologist



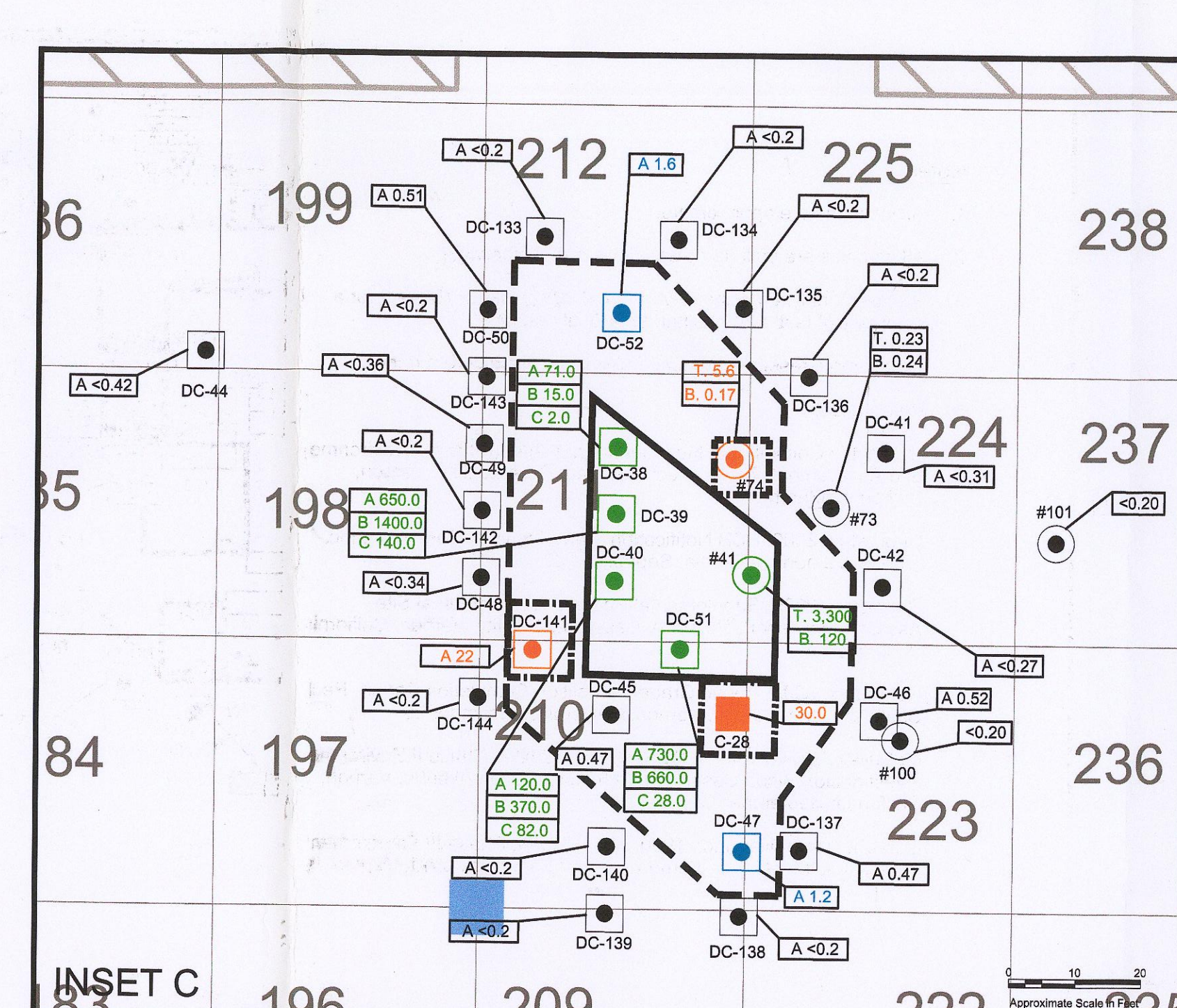
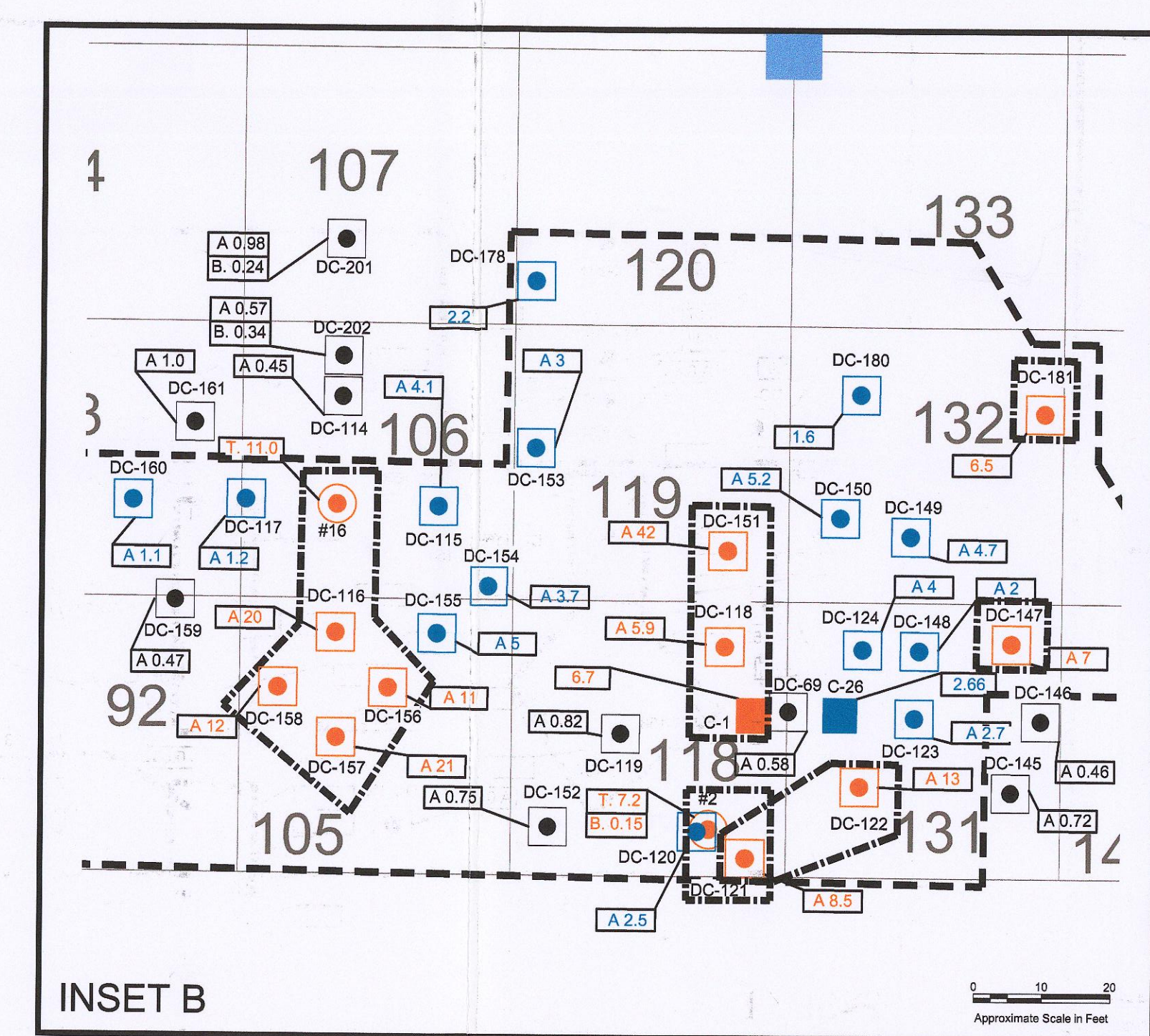
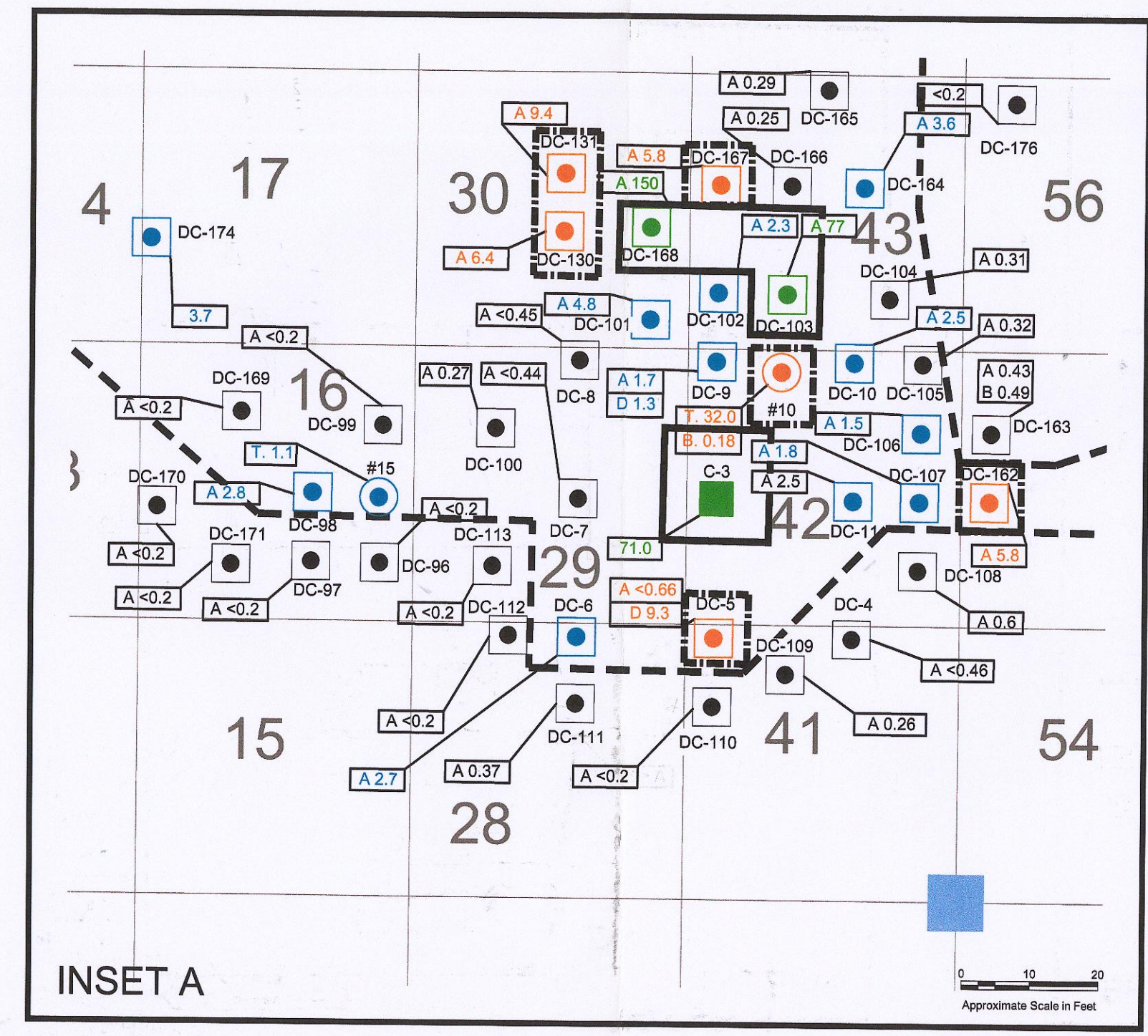
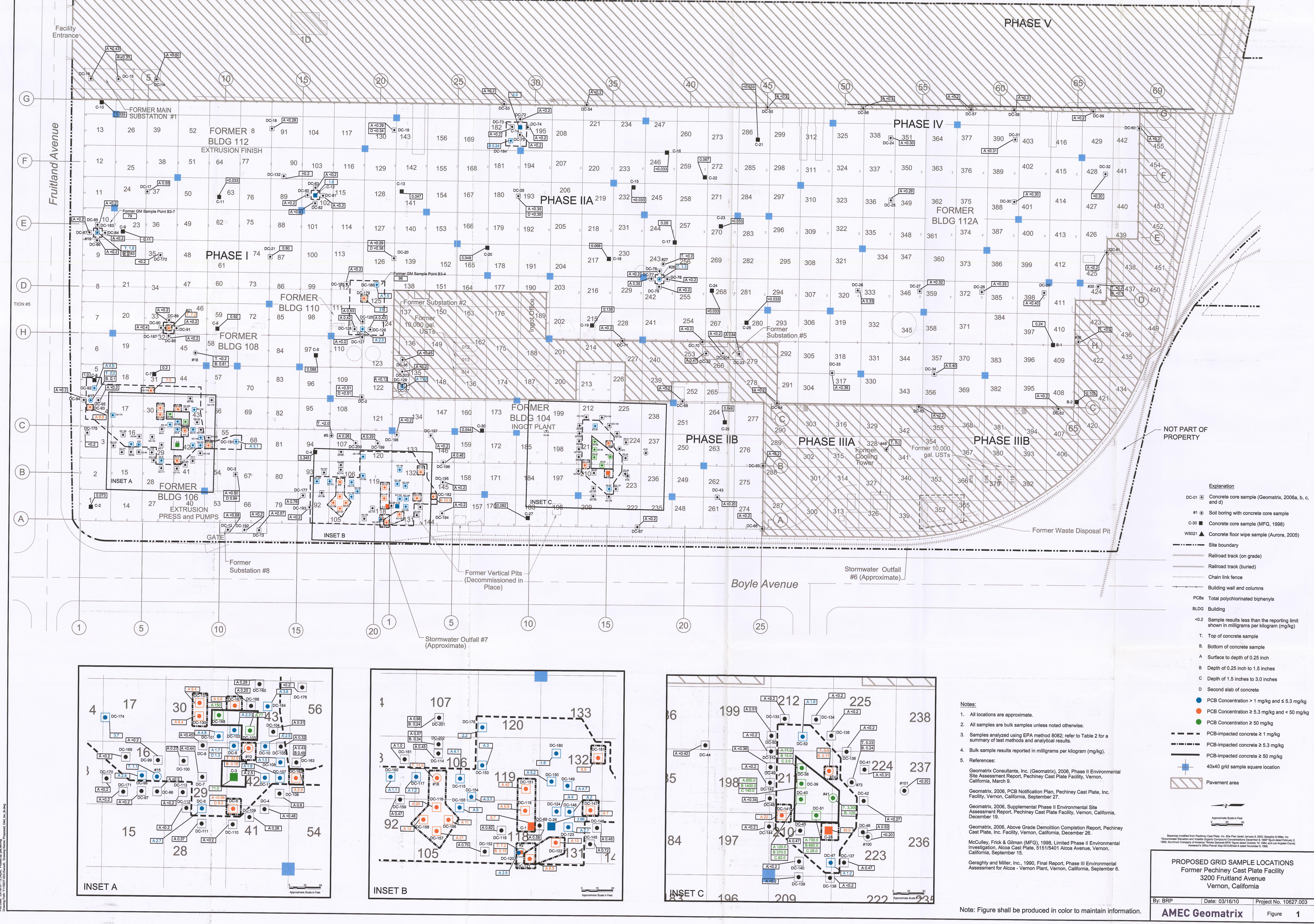
Calvin H. Hardcastle, PE #C44751  
Principal Engineer



Enclosures	Figure 1 – Site Location Map
	Figure 2 – Proposed Additional Concrete Sample Locations
	Figure 3a – Proposed Additional Soil Sample Locations, Former Buildings 106, 108, and 112
	Figure 3b – Proposed Additional Soil Sample Locations, Former Buildings 104 and 112A

cc: John F. Cermak - Baker &amp; Hostetler LLP



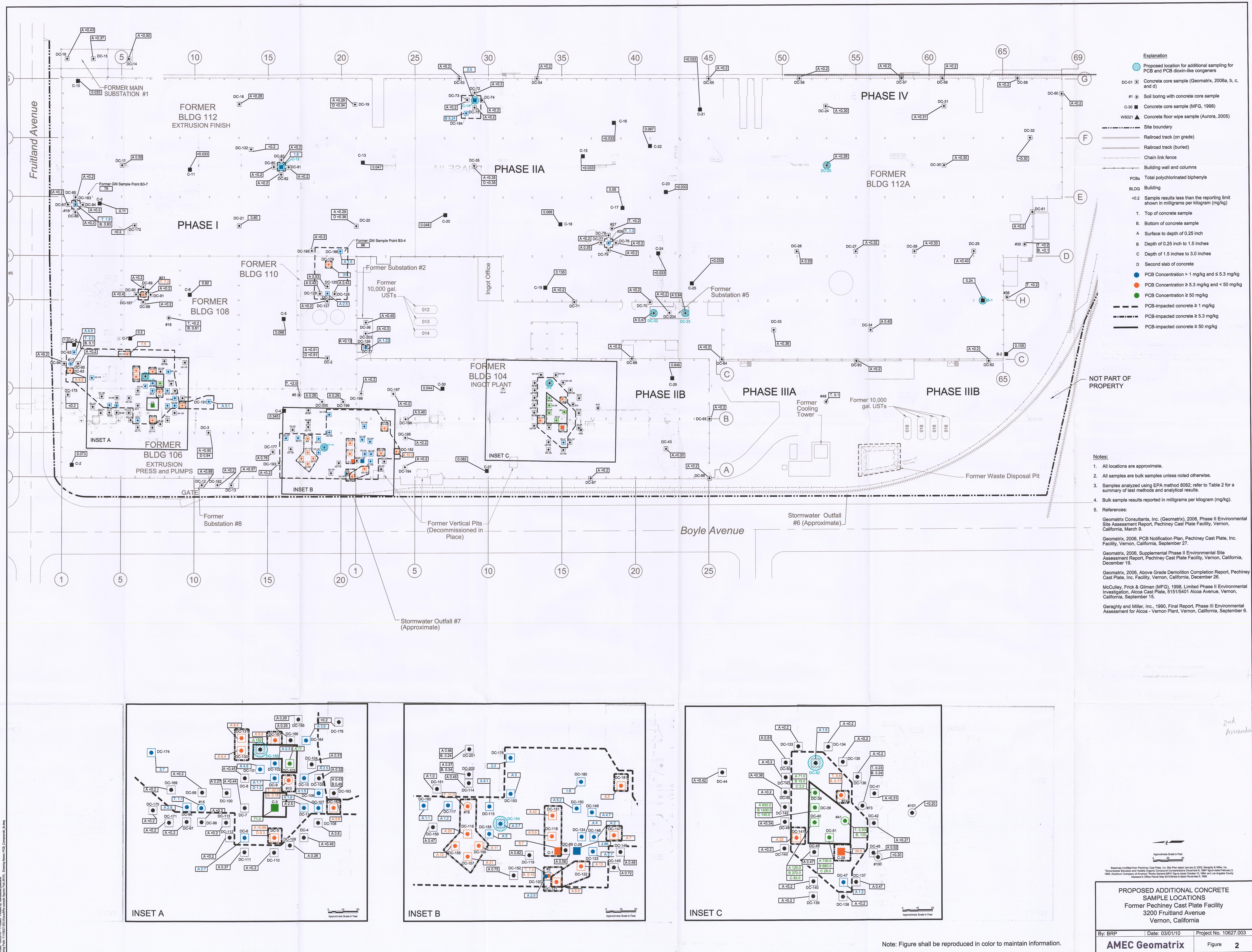


- Explanation**
- DC-01 Concrete core sample (Geomatrix, 2006a, b, c, and d)
  - #1 Soil boring with concrete core sample
  - C-30 Concrete core sample (MFG, 1998)
  - WS021 Concrete floor wipe sample (Aurora, 2005)
  - Site boundary
  - Railroad track (on grade)
  - Railroad track (buried)
  - Chain link fence
  - Building wall and columns
  - PCBs Total polychlorinated biphenyls
  - BLDG Building
  - <0.2 Sample results less than the reporting limit shown in milligrams per kilogram (mg/kg)
  - T Top of concrete sample
  - B Bottom of concrete sample
  - A Surface to depth of 0.25 inch
  - B Depth of 0.25 inch to 1.5 inches
  - C Depth of 1.5 inches to 3.0 inches
  - D Second slab of concrete
  - PCB Concentration > 1 mg/kg and ≤ 5.3 mg/kg
  - PCB Concentration ≥ 5.3 mg/kg and < 50 mg/kg
  - PCB Concentration ≥ 50 mg/kg
  - PCB-impacted concrete ≥ 1 mg/kg
  - PCB-impacted concrete ≥ 5.3 mg/kg
  - PCB-impacted concrete ≥ 50 mg/kg
  - 40x40 grid sample square location
  - Pavement area

**Notes:**

- All locations are approximate.
- All samples are bulk samples unless noted otherwise.
- Samples analyzed using EPA method 8082; refer to Table 2 for a summary of test methods and analytical results.
- Bulk sample results reported in milligrams per kilogram (mg/kg).
- References:
  - Geomatrix Consultants, Inc. (Geomatrix), 2006, Phase II Environmental Site Assessment Report, Pacheco Cast Plate Facility, Vernon, California, March 9.
  - Geomatrix, 2006, PCB Notification Plan, Pacheco Cast Plate, Inc. Facility, Vernon, California, September 27.
  - Geomatrix, 2006, Supplemental Phase II Environmental Site Assessment Report, Pacheco Cast Plate Facility, Vernon, California, December 19.
  - Geomatrix, 2006, Above Grade Demolition Completion Report, Pacheco Cast Plate, Inc. Facility, Vernon, California, December 26.
  - McClure, Frick & Gilman (MFG), 1998, Limited Phase II Environmental Investigation, Alcoa Cast Plate, 5151/5401 Alcoa Avenue, Vernon, California, September 15.
  - Geraghty and Miller, Inc., 1990, Final Report, Phase III Environmental Assessment for Alcoa - Vernon Plant, Vernon, California, September 6.





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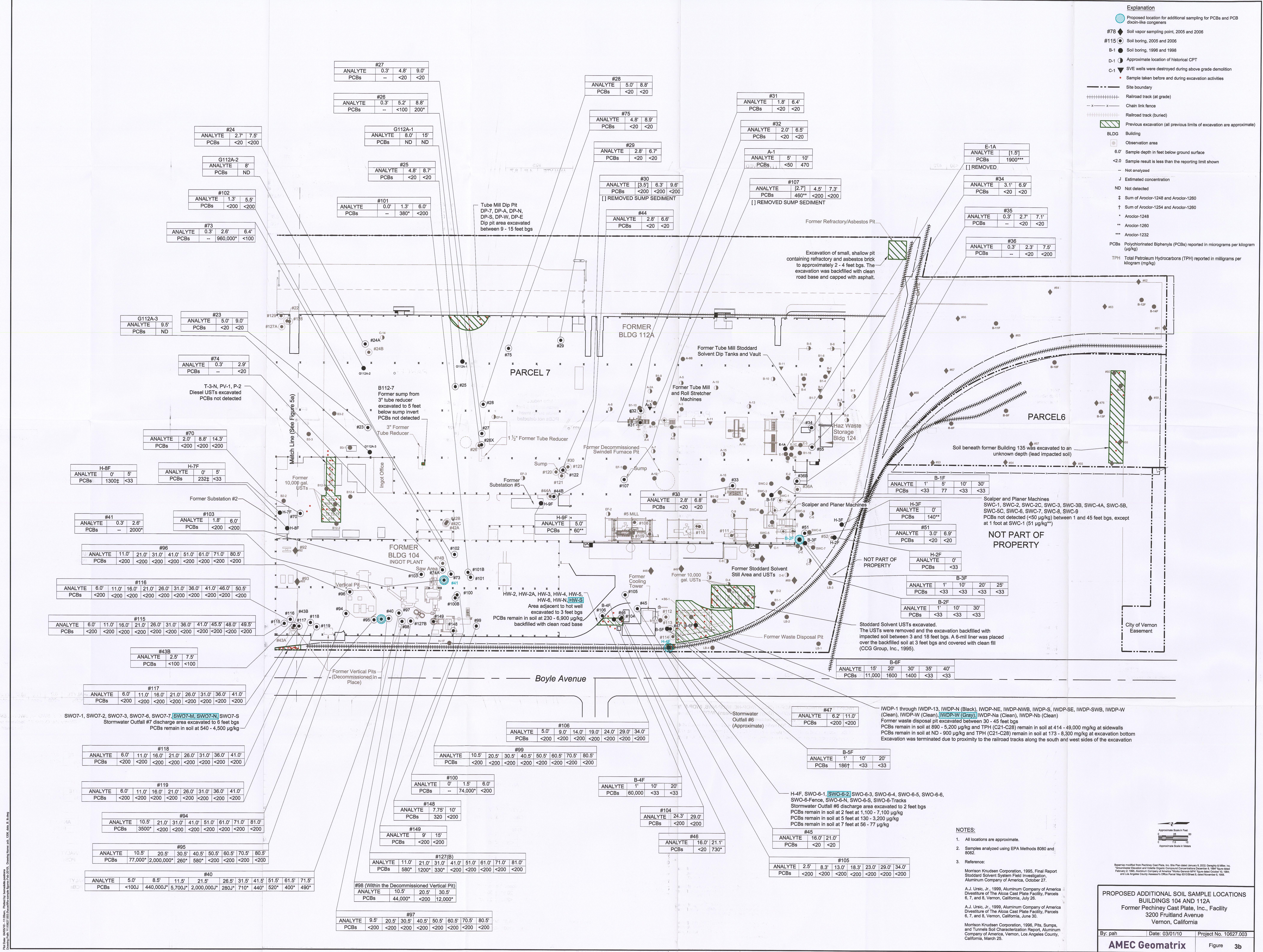


- NOTES:**
1. All locations are approximate.
  2. Samples analyzed using EPA methods 8080 and 8082.
  3. References:  
  
A.J. Ursic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, July 26.  
  
A.J. Ursic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, June 30.  
  
Morrison Knudsen Corporation, 1996, Pits, Sumps, and Tunnels Soil Characterization Report, Aluminum Company of America, Vernon, Los Angeles County, California, March 25.

PROPOSED ADDITIONAL SOIL SAMPLE LOCATIONS  
FORMER BUILDINGS 106, 108, AND 112A  
Former Pechiney Cast Plate, Inc., Facility  
3200 Fruitland Avenue  
Vernon, California

By: pah	Date: 03/01/10	Project No. 10627.003
<b>AMEC Geomatrix</b>	Figure	<b>3a</b>





**Explanation**

- Proposed location for additional sampling for PCBs and PCB dioceno-like congeners
- Soil vapor sampling point, 2005 and 2006
- Soil boring, 2005 and 2006
- Soil boring, 1996 and 1998
- Approximate location of historical CPT
- SVE wells were destroyed during above grade demolition
- Sample taken before and during excavation activities
- Site boundary
- Railroad track (at grade)
- Chain link fence
- Railroad track (buried)
- Previous excavation (all previous limits of excavation are approximate)
- BLDG Building
- Observation area
- Sample depth in feet below ground surface
- Sample result is less than the reporting limit shown
- Not analyzed
- Estimated concentration
- Not detected
- Sum of Aroclor-1248 and Aroclor-1260
- Sum of Aroclor-1254 and Aroclor-1260
- Aroclor-1248
- Aroclor-1260
- Aroclor-1232
- PCBs Polychlorinated Biphenyls (PCBs) reported in micrograms per kilogram (µg/kg)
- TPH Total Petroleum Hydrocarbons (TPH) reported in milligrams per kilogram (mg/kg)

**NOTES:**

- All locations are approximate.
- Samples analyzed using EPA Methods 8080 and 8082.
- Reference:
  - Morrison Knudsen Corporation, 1995, Final Report Stoddard Solvent System Field Investigation, Aluminum Company of America, October 27.
  - A.J. Uralic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, July 26.
  - A.J. Uralic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, June 30.
  - Morrison Knudsen Corporation, 1996, Pits, Sumps, and Tunnels Soil Characterization Report, Aluminum Company of America, Vernon, Los Angeles County, California, March 25.

**PROPOSED ADDITIONAL SOIL SAMPLE LOCATIONS**  
BUILDINGS 104 AND 112A  
Former Pechiney Cast Plate, Inc., Facility  
3200 Fruitland Avenue  
Vernon, California

By: pah Date: 03/01/10 Project No: 10627.003

**AMEC Geomatrix** Figure 3b